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Implementing the Convention on the Rights of Persons with Disabilities: Telecommunications for Deaf and Hard of Hearing Users: The ITU's Role and contribution

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Would you trust this kid?

- A Historical View of events

The real first Deaf Telephone

The Beginning

Three Deaf Men Changed the World

Robert Weitbrecht
Andrew Saks
James C Marsters

Liberated the Telephone and that enabled deaf people to have a political voice that is now heard around the world!

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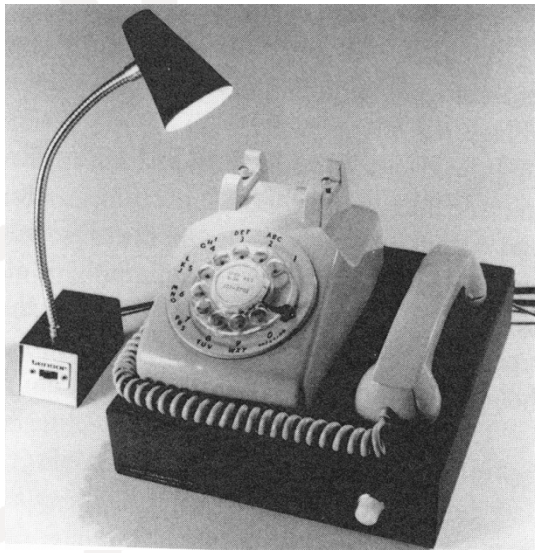
A Historical View of events

- In the 1960's they and their tiny company, Applied Communications Corporation (APCOM) created the first successful deaf telephone network with a modem and a surplus TTY

Surplus model 15

Phonetype acoustic coupler



Overview

- **A Quick Historical View of events**
  - 1960's the first USA Deaf Telephone Network starts with 5 stations, one with Grandma!
  - For the Deaf by the Deaf working together reconditioning teleprinters/telex machines
  - TDI: Teletypewriters for the Deaf Inc. allowed to receive surplus telex machines
  - Compatibility without Standards so far so good as only in the USA.
  - ASCII 8 bits versus BAUDOT 5 bits begins to raise its head late 1970's and early 1980's.

A Historical View of events 1960's and through the 1970's

- USA: The first Deaf Telephone Network

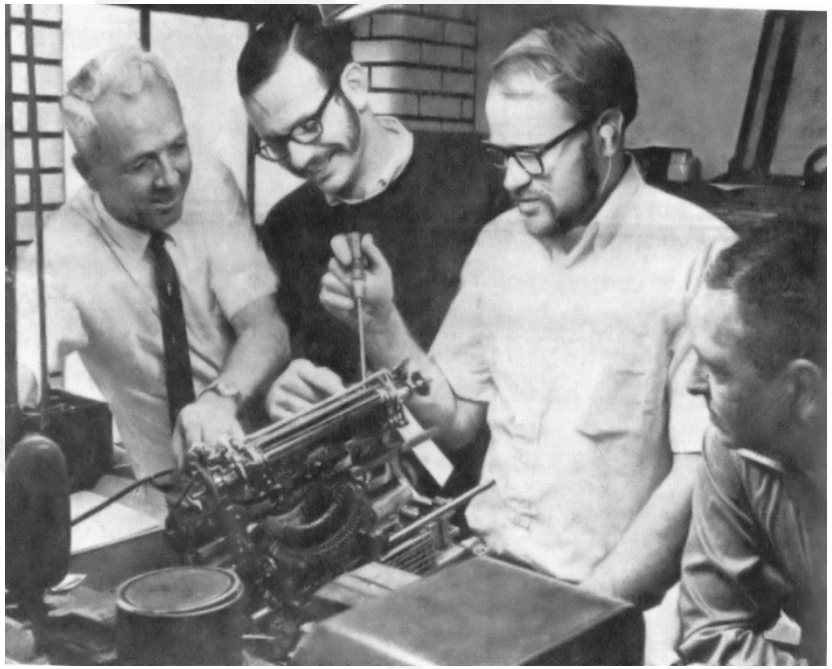


Photo: Sally A. Taylor

- Reconditioning teleprinters/telex machines donated to TDI Inc.
- For the Deaf By the Deaf working together with Western Union Volunteers and the Telephone Pioneers of America

A Historical View of events

- In the 1970s USA first Deaf Telephone Network began to use modernized printers.

A Historical View of events 1970's

- The MCM: the first portable Textphone
  - Michael Cannon and Norman Mainwaring, who is legally blind, created MCM for Micon Industries, Oakland, CA USA
  - MCM (photo at centre) sometimes called Manual Communications Module or Michael Cannon's Machine and others followed (photo: TDI Inc.)

A Historical View of events 1980's

- Portable Textphones better and cheaper
  - These are both Ultratec Textphone products and (now usable with mobile phones)
  - Other companies follow some deaf owned make

Hard copy!

Compacts often dual coded

(photos: Ultratec)

Overview

The beginning of Relay Services

- In the USA, Paul Taylor starts the **First Relay Service,** enabling deaf people to talk to hearing people.
- Relay Services Connect us to the hearing world Room service via TTY. Breakfast is served in New York but ordered in California.
- Canada compatible with the USA BAUDOT TTY network and in 1983 Canada begins Operator Assistance Service Center.
- Canada is first to use 711 to connect directly the relay services.

TTYs spread next to the UK

- 14 October 1972: Andrea J. Saks (AJS) arrived in UK with two Phonetypes but no printing device.
- AJS met with Government Post Office and begins testing in the GPO Lab with two donated creed teleprinters
- Sir Brian Carsburg, Chairman of OFTEL in the 1970's stated:

"Disability communication should be regarded in the same way as rural communication"

Overview

- **The beginning of Globalization**
  - 1973: the UK Government Post Office officially granted trial licenses for 5 TTYs stations to operate over a glass of sherry
  - Compatibility without Standards: Some problems re baud rates and WPM rates
  - First Deaf Transatlantic Call 1975 from London - UK to Washington DC, USA
  - Mid 70's Compatibility? We were able to text to the USA from the UK with minor adjustments! NO direct dial from USA!

The Progress in the UK

- The Breakthrough Trust (a deaf and hearing non-profit group) joins forces with APCOM
- APCOM lets AJS stay in the UK to help with GPO trial.
- GPO gives 5 Creed Teleprinters to Breakthrough
- January 1973 GPO gives permission for 5 experimental Stations to start
- **End of 1973: about 40 TTY's stations existed**
- **No relay services yet**

Transatlantic Compatibility: 1975

- USA TTY Baudot to UK TTY Baudot
  - 45.5 and 50 baud rate, dual baud MCM's
- USA Teletypes and UK Teleprinters
  - 60 wpm and 66 wpm
- Decibel (DB) rates lowered by GPO in the UK
- There was no satellite or Internet, only a cable under the sea: This causes a reduced transmission accuracy and during storms lots of garble and crossed lines (famous black dot)
  -

First TTY Transatlantic Call: 1975

- Due to anti-trust regulation, data was not allowed across the transatlantic voice network. FCC waived the rule for this call for one day only.
- What it meant to USA and UK Deaf people: one could talk over the trans- Atlantic voice telephone network, using data or i.e. text
- **Faxing (an ITU standard V.21) across the transatlantic voice network became legal because of the Deaf, breaking the FCC docket.**

RNID broke it

- RNID decided to go with Telecom Gold, and CCITT 300 baud to be modern
  - RNID tried to dismantle the Baudot TTY network in a buy back and tried to impose the new textphone.
  - Ireland does not conform. Also the "now- unrecognized Baudot TTY network" continues to be used in the UK in spite of the official UK denial
- France develops the Minitel
- Italy and German uses EDT Textphones
- Holland uses DTMF Textphones

Many people tried to FIX it! International Portable Textphones

- Micon Ind. created the first British MCM portable textphone and then an International version followed:
  the dual baud MCM was used in the First Deaf Transatlantic Call in 1975.
- Ultratec, a textphone manufacturer creates in the 1980s, a very tiny multi-protocol portable textphones called “the compact”, but always had inside the original Baudot default protocol.
- AJS and Dick Brandt went to ITU to begin the first International standards process for TTY’s

The beginning at ITU: 1991

- Gary Fereno, US State Department & AJS

Father of V.18, Dick Brandt

- He wrote most of ITU.T V.18
- Saved Baudot protocol from being deleted from V.18
- 1st rapporteur for the Disability question in ITU-T
- Recipient of the TDI Robert Weitbrecht award
- Invited AJS to ITU to help in 1991

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ITU makes IPTV accessible

- "Requirements for the support of IPTV services" **(ITU-T Y.1901)**
  - Subtitles/Captions
  - Real time captioning
  - Recording of accessibility features, e.g. captioning
  - Audio description
  - Audio feedback of remote control

IPTV

- Focus Group on IPTV began the work
  - Established 2006-04; Terminated 2008-01
- Created a requirements document that became a SG13 Recommendation and International Standard ITU-T Y.1901 Y.IPTV-Requirements
- Accessibility features mainstreamed
- Many accessibility features mandatory I.E. captions, voice description and recordability etc.
- Public Service, Accessibility sections
- Accessibility Appendix for ease in locating mainstreamed Accessibility features

Some ITU Achievements

- Dick Brandt / USA
  - The First Deaf Accessibility ITU-T Standard V18
- Gunnar Hellstrom / Sweden
  - F.703: Total Conversation / Real Time Text, Voice, Video
  - Accessibility checklist for Standard Writers
- Y.1901: IPTV Requirements and Accessibility Features
  - F.790: Telecommunications accessibility guidelines for older persons and persons with disabilities
- WTSA-08 Resolution 70 and ITU-T Director's Implementation
- PP-10 Resolution 175 approved in October 2010

ITU Captions benefits everyone

- Captioning:
  - real-time on-screen transcript of dialogue
- For hearing impaired, non-native speakers, all
- Captioning service: remotely or on site

Malcolm Johnson ITU-T Director of the TSB

- Malcolm Johnson Accessibility Advocate
- WTSA-08 Accessibility Resolution 70 and Resolution PP-10 175

Malcolm Johnson, in accordance with Resolution 70 and 175, reorganized the Telecommunications Standardization Bureau (TSB) to include a Project for Accessibility so that Persons with Disabilities can Participate

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ITU-T Focus Group on Audiovisual Media Accessibility

- Everyone can participate
- Proposed by ITU-T Study Group 16:
  it will address the need to make audiovisual media accessible for persons with disabilities
- It is a joint effort of ITU-T, ITU-R and the European Broadcasting Union (EBU)
- Details on how to participate at: http://www.itu.int/en/ITU-T/focusgroups/ava/Pages/default.aspx

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Why promote and create accessible ICTs?

- Accessibility is a human right recognized in the UN Convention on the Rights of Persons with Disabilities (UNCRPD)
- Enshrined in Article 9 of the UNCRPD
  - **Article 9 of the UNCRPD defines ICT accessibility as an integral part of accessibility rights on par with transportation and the physical environment.**
  - **Article 9 concerns all ICT products and ICT based applications and services, with a far-reaching implication for industry, governments and civil society**
- All of us who age will have age-related disabilities, **We all (100%)** can benefit from more accessible devices

Implementation By Industry? Some issues

- International Standards are Voluntary
  - No one has to implement all or any part of international standards
  - Many national standards bodies compete
  - Market forces still rule
  - Regulation is still the best incentive but patchy
  - Partial implementation of accessibility features may cause more problems than access
  - Moving from the PSTN analogue to VoIP digital
  - Real Time Text over IP is not truly Globally standardized and implemented
  - Relay Services, same problem

Implementation by Industry??

- V.18 was never properly implemented by large communication or network builders and manufacturers
  - One exception was UK - British Telecom and relay services
  - Parts of V.18 were used in some textphones
- Gateways need to be updated and have interoperability for accessibility features internationally

New Standards Need Persons with Disabilities

- Engineers need Disability scenarios from the very people who require the accessibility Features to write good Standards
  - Persons with disabilities can now participate in ITU because of Resolution 70 (WTSA-08).
  - Accessibility at ITU strengthen because of PP-10 Resolution 175
  - New Standards being developed need industry assistance and implementation

New Standards Need Persons with Disabilities

- Some example are:
  - H.325 will enable, not only voice, text and video, but also file sharing, application sharing, screen sharing and from device to device
  - The networked Car it is a possible speech interactive controls, and for emergency communication and telecommunicate, IP and navigational properties that need to be accessed by everyone.

New Standards Need Persons with Disabilities

- **Relay Services need a strong non - proprietary International Standard**
  - ITU-T is working on this in Q26/SG16 now!
  - It must be Global
  - It cannot be dictated by commercial interests of industry or country boundaries
  - The All Relay Services must participate
  - Interoperability must be established for Global connectivity and Accessibility
    - Maybe in the Cloud??
    - An example of this not being done is Instant Messaging
    - Mobile video telephony for sign language is an issue

Without International Standards and cooperation, Accessibility to ICTs suffers

- Without International Standards there will be no compatibility or inter-operability and no accessible global convergence
- Without International Standards, there will be no effective means for policy makers to create effective regulations for the inclusion of Persons with disabilities in all forms of Information Communication Technology (ICTs)

Without International Standards there cannot be Accessibility for Persons with Disabilities

- Without the involvement of Persons with Disabilities in the standardization process, it will be more difficult to create good International Standards.

- Without **Universal Design** being used from the very beginning of the standard writing process, implementation becomes expensive with retro refitting.

Final Message

- Accessibility difficulty is expressed everyday with new barriers that are being created by new technology especially those with proprietary standards.
- If Industry and All Standards Organizations will work together, then it is possible to conceive that globalized Accessible ICTs & Telecommunications could in fact become a reality with International Standardization, Regulation and Cooperation.
- With PP-10 175 & WTSA-08 Resolution 70 ITU has opened up its doors to Persons with Disabilities to participate in Standards.
- When will the rest of you come?

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Contact

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Thank you!

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